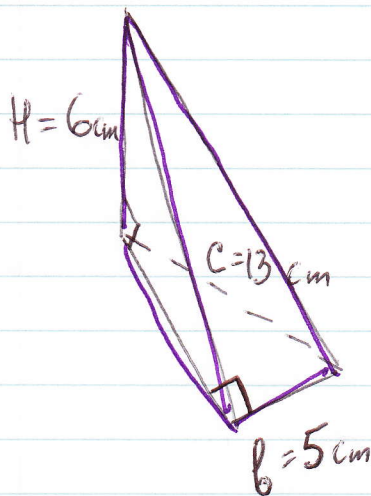


#4

5 points



GIVEN: $C = 13 \text{ cm}$, $b = 5 \text{ cm}$
 $H = 6 \text{ cm}$

FIND: V ?

$$C = 13 \text{ cm} \quad h = \sqrt{13^2 - 5^2} =$$

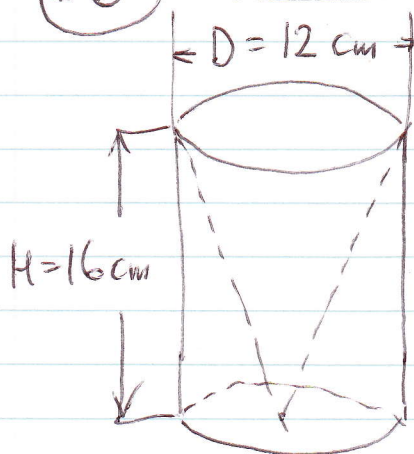
$$= \sqrt{169 - 25} = 12 \text{ cm}$$

$$A_{\text{base } \Delta} = \frac{b \cdot h}{2} = \frac{5 \cdot 12}{2} = 30 \text{ cm}^2$$

$$V = \frac{1}{3} \cdot A_{\text{base } \Delta} \cdot H = \frac{1}{3} \cdot 30 \cdot 6 = \underline{60 \text{ cm}^3}$$

#6

5 points



GIVEN: $D = 12 \text{ cm}$; $H = 16 \text{ cm}$

FIND: $V_{\text{CYL}} - V_{\text{CONE}}$?

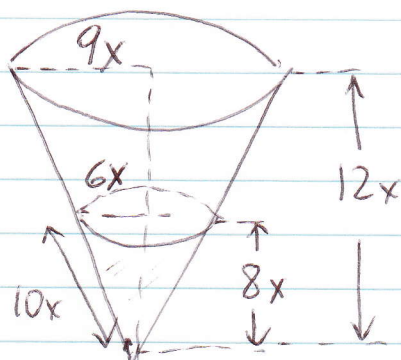
$$V_{\text{CYL}} = \pi R^2 H = \pi \left(\frac{12}{2}\right)^2 \cdot 16 =$$

$$= \pi \cdot 6^2 \cdot 16 = \pi \cdot 36 \cdot 16 = 576\pi$$

$$V_{\text{CONE}} = \frac{1}{3} \pi R^2 \cdot H = \frac{1}{3} \pi \cdot 6^2 \cdot 16 = \frac{1}{3} \pi \cdot 36 \cdot 16 = 192\pi$$

$$= V_{\text{CYL}} - V_{\text{CONE}} = 576\pi - 192\pi = \underline{384\pi \text{ cm}^3}$$

GEOM p.524 CH.10.3 (#9*) (BONUS) 10 points



1. Large cone: $V_L = \frac{1}{3} \pi R^2 \cdot H = \frac{1}{3} \pi (9x)^2 \cdot 12x =$
 $= \frac{1}{3} \pi \cdot 81x^2 \cdot 12x = \underline{\underline{324\pi x^3 \text{ cm}^3}}$

2. Small (Filled) cone: $V_s = \frac{1}{3} \pi r^2 \cdot h =$
 $= \frac{1}{3} \pi (6x)^2 \cdot 8x = \frac{1}{3} \pi \cdot 36x^2 \cdot 8x = 96\pi x^3 \text{ cm}^3$

3. LARGE cone $\frac{324\pi x^3}{96\pi x^3} = \frac{100\%}{x\%}$
 SMALL cone

$324\cancel{x^3} = 96 \cdot 100$
 $100 \cdot 96\cancel{x^3} = 324\cancel{x^3} \cdot x$
 $x = \frac{96 \cdot 100}{324} = \underline{\underline{29.6\%}}$